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VOL. XXI, NO. 26 MONDAY, MAY 14, 1928 WHOLE NO. 583

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The Classical Weekly

VOLUME XXI, NO. 26 MONDAY, MAY 14, 1928 WHOLE NO. 583

ROMAN COMMERCE IN THE EARLY EMPIRE

The ancient Romans do not appear to have been destined to develop into a great sea-faring people, nor do they seem, like their rivals the Carthaginians, to have engaged in a vast over-seas commerce. There is no doubt that the Carthaginians carried on an extensive commerce with the East and with most of the nations bordering on the Mediterranean. Polybius (3.22) records the earliest commercial treaty that Carthage made with Rome. He dates this treaty in 509 B. C.; Mommsen assigns it to 348 B. C.[1] Had the Romans been a sea-faring people, they would never have signed such an unequal document. Among other clauses of this treaty is one stipulating that neither Rome nor her allies shall sail or trade in the Western Mediterranean; the treaty makes the Tyrrhene Sea and the other waters to the west of Italy virtually a *mare clausum*, reserved for the trade of Carthage. Even in a subsequent treaty (dated, by some ancient authorities, in 348 B. C.), made after Rome had established a colony at the mouth of the Tiber, the Romans were clearly unable to demand and secure equal terms from the Carthaginians (Polybius 3. 24).

However, after Rome extended her dominion over the peoples of Italy, she challenged the maritime supremacy of Carthage, and after three long drawn-out wars she annihilated the Punic power. After that, Roman industry and trade gradually expanded, but not so rapidly as one might suppose. Civil strife and domestic problems retarded the growth of Roman commerce. Moreover, the aristocracy deemed it not entirely in keeping with its dignity to engage actively in any business other than agriculture (see e. g. Cicero, De Officiis 1. 150–151). The industrial classes were slow to grow and develop in the face of the traditional opposition of the aristocracy. At length the middle class, the knights (*equites*), the men of business, began to come into their own, and industry started forward. Then there sprang up in Rome an urban democracy, and from time to time men of light and leading, such as Appius Claudius[2], conceived it to be their mission to work for the social amelioration of the struggling industrial classes.

Despite the innate interest of the Romans in agriculture, the social conditions now tended to draw the small freeholder away from the soil, and large plantations took the place of little farms. Even in the days of Cato the Censor, who took boundless delight in agriculture, conditions were making that compelled the small freeholder to relinquish his little estate; he then found his way to the great city. The soil was becoming impoverished and yielded but scant return for the labor bestowed upon it. The constant planting of one crop—grain—was exhausting the soil, so that the small farmer could hardly make a living on his plot of land. He was unable to hold his own in competition with the large ranch or plantation owned, stocked, and equipped by members of the capitalistic class, who had the land cultivated in a scientific manner. The large plantations therefore produced quantities of olive oil, wines, grain, vegetables, wool, and pork for the markets of the cities; as a result the small freeholder was rapidly forced to the wall. The labor on the large plantations was furnished, for the most part, by slaves.

It is not to be assumed that the large plantations of Italy produced sufficient grain to supply the needs of Rome[3]. As soon as Rome won Sicily from Carthage, that province was called upon to feed the city. Later, Egypt and other provinces contributed their quotas. The native peasants of Sicily had to furnish to Rome a tithe of the grain and one-fifth of the other products of their land as a tributary tax. It has been estimated[4] that this tax supplied Rome with 1,000,000 bushels or more of wheat a year; the surplus over and above the tax was marketed in Rome. Just how much the Romans imported from the fertile fields of Sicily cannot be determined, but it certainly amounted to a great deal.

It required a fleet of large ships to transport the Sicilian grain and other products to Italy for the Roman market. These transport ships were unable to come up the Tiber to Rome. Therefore they transferred their cargoes at Ostia to smaller ships of light draft that brought the freight up the river to Rome. But Ostia, though only fifteen miles from Rome, furnished few exports; hence the transport ships had either to go to Puteoli for a return cargo, or to go back to Sicily in ballast. Puteoli was a much older and better port than Ostia, and so, although Puteoli was 150 miles from Rome, most of the import and the export trade of Rome passed through its harbor. The consignments

[1]On this treaty see Livy 7.27, 7.38, 9.43. Polybius (3.22–25) affirms that the text of this treaty was in existence in his time. See also Theodor Mommsen, History of Rome, Translated by W. P. Dickson, Volume 1, Appendix II, pages 631–635 (New York, Charles Scribner's Sons. My copy is dated in 1889); W. E. Maitland, The Roman Republic, § 241 (Cambridge: at the University Press, 1923).

[2]Appius Claudius championed the doctrine that public lands should be used for social and economic betterment rather than be rented at a nominal sum to members of the aristocracy. On the democratic foreign policy of this patrician reformer see Maitland, § 235, and Tenney Frank, Roman Imperialism, 65, 82 (New York, The Macmillan Company, 1914).

<[2]I add here a reference to some remarks of my own on this subject, in an article entitled Roman Business Life as Seen in Horace, The Classical Journal 2 (1907), 111–122. See especially pages 112–113. C. K.>.

[3]See Tenney Frank, An Economic History of Rome[2], 192 (Baltimore, The Johns Hopkins Press, 1927). The present paper is largely indebted to this work, which will be cited hereafter merely as Frank.

for Rome were transferred to smaller coasting vessels at Puteoli, or were hauled along the Appian Way. The Romans were slow to develop the harbor of Ostia. Furthermore, Puteoli[5] was situated near an industrial center and the factories of that locality furnished a large export trade for ships. However, after Claudius improved the harbor of Ostia, it captured no small part of the import trade from Puteoli.

A word may be said about the policy of the Gracchi, the agrarian agitators, in reference to industry and commerce. It is to be observed that the Gracchi in some of their radical departures were, according to certain authorities, endeavoring to encourage and develop industry and trade. Some interpret in this way the practice, initiated by Tiberius Gracchus, of having knights supplant the aristocracy in jury trials[6]. This innovation was not meant simply to clip the wings of the Senate, but was intended as a liberal stroke in the broad policy of developing Roman industry. So likewise, when Gaius Gracchus, as part of his agrarian policy, undertook to divide the public lands[7], he meant to establish colonies of Romans in remote lands[8] as a means of developing commerce. Whether this was actually a part of Gaius Gracchus's far-reaching agrarian policy cannot be definitely determined. It is true, however, that the Roman Senate, after the destruction of Carthage, was apparently content to let Utica capture no small part of the commerce that Rome's great rival once enjoyed. Perhaps Gaius Gracchus established a citizen colony upon the site of Carthage[9], possibly to recover this commerce. But this theory is not capable of proof. Gaius Gracchus likewise planted a citizen colony at Tarentum[10], in order to restore that south Italian port to something of the splendor it enjoyed before the Hannibalic War. He also planted a colony at Scylacium, opposite Vibo, which obviated the tedious, roundabout, sail through the straits of Messana. It seems, then, quite plausible to assume that Gracchus included in his program of reform a plan for the expansion of Roman foreign trade and commerce. One result of the Gracchan reforms was to elevate the capitalist-mercantile class to a position of power in the State, particularly in financial enterprises. It is quite possible that the favor shown to the knights in the affairs of the State by the Gracchi was evidence of broad and liberal statesmanship rather than a mere attempt on their part to thwart and overthrow the deeply entrenched aristocracy. Certainly there is very scant evidence that the Senate at that period showed a disposition to encourage and develop Roman industry and commerce. But it must be said in criticism of the Gracchan policy[11], in part, that the grain dole which Gaius established did not redound to the permanent benefit of the State; on the contrary, it proved a factor that made decidedly against Roman industry and trade. The effect of the institution was positively harmful, since it tended to impoverish the populace and to deprive the masses of selfreliance, industry, and initiative, and to make the plebeians ultimately dependent upon the State for support, so that, under the early Empire, as Juvenal said (10. 81), the plebeians clamored only for *panis et circenses*. Nevertheless, Rome did develop, under the late Republic or the early Empire, a commerce of very considerable proportions.

Students of Roman trade and commerce may be divided into two distinct schools, or classes. One class[12] regards Roman trade and commerce as insignificant and such only as an undeveloped rural people might produce. The other class regards Roman trade and commerce as a part of an intricate industrial system not unlike that our modern conditions offer. The ancient writers themselves have furnished us very inadequate information about the industry and commerce of their times. We have, to be sure, some agricultural treatises—those of Cato, Varro, and Columella. We have, also, Frontinus's work on the remarkable water supply of Rome (De Aquis Urbis Romae), the remarks of Pliny the Elder[13] on the contemporary methods of production, and the mariner's guide-book called 'The Periplus of the Erythraean Sea', written in Nero's reign[14]. Suetonius, too, tells us (Claudius 19–20) about Claudius's decree in encouragement of importations of grain. Then, that entertaining and interesting novel by Petronius, Trimalchio's Dinner, throws a flood of light upon a class of shipowners who as freedmen amassed vast fortunes from trade and commerce, perhaps about Puteoli[15]. All these sources, while interesting and informing, leave much to be desired by the student of Roman commerce. They must be supplemented by the casual references found in the writings of their contemporaries and by the objects the excavators and archaeologists have discovered and brought to our aid. Moreover, we derive from an economic survey of Pompeii[16] much trustworthy information which tends to confirm or to refute our inferences and conclusions.

[5]On the importance of Puteoli as a port see Charles Dubois-Pouzzoles Antique, 64 (Paris, Ancienne Librairie Thorin et Fils, 1907).

[6]Frank, 135.

[7]Frank, Roman Imperialism, 252–254. See also a discussion of the Gracchan reforms and colonization in A. J. H. Greenidge, A History of Rome During the Later Republic and Early Principate, 1.224, 260 (London, Methuen and Co., 1904. Only the first volume of this work was published).

[8]On the Lex Agraria as applying to land in Africa see E. G. Hardy, Six Roman Laws, 70 (Oxford: at the Clarendon Press, 1911. See THE CLASSICAL WEEKLY 6.46).

[9]Frank, 137, 155; Greenidge, 227.

[10]Frank, Roman Imperialism, 254. Plutarch (Gaius Gracchus 9) indicates that select colonists were sent to Carthage and Tarentum, perhaps to promote industry and commerce.

[11]Frank, Roman Imperialism, 269.

[12]See M. P. Charlesworth, Trade Routes and Commerce of the Roman Empire[2], xii, 224 (Cambridge: at the University Press, 1927. See THE CLASSICAL WEEKLY 21. 95–96); Frank, 217. In a note Professor Frank sets forth the two extreme views, and refers to a sane and reliable discussion to be found in the article Handel und Industrie, in Pauly-Wissowa, Real-Encyclopädie der Classischen Altertumswissenschaft. <On the extent of Roman commerce in Horace's day see my remarks in The Classical Journal 2. 111–113, 118–122 [see note 3, above]. C. K.>.

[13]See 34. 39–46, 161; 35. 160; 36. 65, 194; etc. <For Frontinus's work on the aqueducts of Rome see THE CLASSICAL WEEKLY 19.175–176. C. K.>.

[14]Consult The Periplus of the Erythraean Sea, Translated from the Greek, by Wilfred H. Schoff (New York and London, Longmans, Green and Company, 1912). This book, by a merchant of the first century of the Roman Empire, is the earliest record of trading with nations of the East in ships built and commanded by citizens of the West. It deals with the tide of commerce between Rome and far-off India and China.

[15]It should be noticed that it has not been definitely established that Puteoli (Pozzuoli) was the scene or locality of Petronius's novel, the Cena Trimalchionis.

[16]See August Mau, Pompeii, Its Life and Art, Translated by Francis W. Kelsey[2], Chapters 47–49, and 52–55. pages 383–404, 437–484 (New York, The Macmillan Company, 1902).

One fact in this study must always be borne in mind. There did not exist in ancient times conditions favorable to an extensive system of commerce, such as exist in our modern times; producer and consumer were much closer together in ancient days than they are in our present-day social structure. Frequently, not to say generally, the small manufacturer in ancient times made in his own shop and himself sold in a part of the same shop the products of his handicraft; thus there was relatively small opportunity for commerce to develop. Only where conditions were especially favorable did production approach, even remotely, the methods and the processes of our modern factory system. In the case of sea-borne commerce it was quite a general practice for the owner of a vessel to act as a merchant, buying his own cargo and transporting it to the most profitable market, where he sold or traded it off, and then purchased another cargo of goods for his home port or for some other market[17].

It may be interesting here to take a survey of the more important typical industries which, it is believed, were developed under the early Empire on such a scale that their products ranked as staple articles of commerce[18].

First of all such industries may be mentioned the red glazed pottery, the so-called Arretine Ware. This ware, ornamented with designs in low relief, commanded a wide market. It was manufactured in various localities, as the Po Valley, and Puteoli, but in largest quantities at Arretium, whence it derived its name. There is in the Corpus Inscriptionum Latinarum, 15, a long list of names of trade-marks, or manufacturers's signatures, which were found on specimens of this ware[19]. It was the custom for the designer to produce a variety of stencils with patterns of leaves, or human figures, or geometric designs, and to use these as a frieze for a mold for bowls and other articles to be made of this ware. The owners of these factories were probably Roman capitalists who turned out this pottery in large quantities in their factories and exported it to all parts of the Empire. On the products of one manufacturer, Cornelius, the names of as many as forty designers are stamped, but probably not all these designers were employed by him at any one time. Many workmen, both freedmen and slaves, were employed in these factories. There were even branch factories in Gaul[20] and elsewhere, perhaps to overcome excessive freight charges. Students of this subject tell us that the Gallic factories, perhaps because of the superior clay found there, eventually put the home factories out of business. It is interesting to note that, in an unopened box of red pottery found at Pompeii, which presumably had arrived just before the eruption which destroyed the city, there were found more specimens from Gallic factories than from Italian, although, as Professor Frank maintains[21], the box was packed in Rome.

Akin to the red glazed pottery was the ordinary red clay lamp so common to-day among Roman antiques. These lamps were made in molds, at the rate, it is estimated, of several millions a year, and were widely distributed over the Roman Empire. They had little decoration, and, consequently, were very cheap. The factories appear to have been operated, if not owned, by freedmen (freedmen generally managed Roman industries).

The glass industry in the early Empire must have been conducted on a factory basis[22]. The glass was, generally, translucent, more or less ornamented with figures, made, perhaps, with the blow-pipe. It bore the signature of the maker. Strabo (758.25) tells us that certain inventions of his day had increased greatly the production of glass, thus reducing the price of the article. From this statement the use of the blow-pipe is inferred. Among the names stamped on glass ware that has been preserved are those of Greek as well as of Latin makers. Both Strabo (758.25) and Pliny (36.194–195) inform us that the manufacturers had no little difficulty in securing a tractable sand. Rome seems to have been regarded as the best market for this glass industry. Though glass was made in Campania, it was also imported, from Sidon and other places.

Brick-making[23], it is generally conceded, was a Roman industry conducted by factory methods. This industry, though not developed under the Republic, assumed in Claudius's reign enormous proportions and became a monopoly of the Roman manufacturers. Under the Empire brick supplanted early building materials, such as tufa-blocks, stone, and open reticulum work. Roof-tiles were of course generally used even in the Republic; they continued in vogue under the Empire. During Nero's reign, especially after the great fire, when a large part of Rome had to be rebuilt, an enormous impetus was imparted to the brick industry[24]; from this time forward concrete walls were usually faced with brick. Along with brick should be mentioned the concrete industry, which assumed large proportions. After brick-faced concrete was generally adopted as the standard building material, the brick kilns of Rome and vicinity were taxed to capacity to supply the trade.

It is not to be assumed that the products of the Roman kilns were used altogether at Rome. There developed a considerable export trade in bricks. Bricks from the Roman yards[25] were shipped by barges down the Tiber to Ostia, where they were put aboard ships and exported to Gaul and elsewhere. We are informed that bricks made in yards on the Tiber, even 100 miles above Rome, were marketed down the river, and that, when a superior grade of brick was desired by a nobleman for his Alban villa, he would have the brick transported, at no little expense, from the metropolis.

[17]Frank, 301. [18]For this list of industries see Frank, 230.

[19]See George H. Chase, Catalogue of Arretine Pottery (Boston and New York, Houghton Mifflin Company, 1916). Some of the many Plates in this monograph reproduce vases in the colors of the originals.

[20]For the importance of the Gallic factories see Charlesworth, 198.

[21]Frank, 223.

[22]For a complete discussion of the glass industry in ancient times see Anton Kisa, Das Glas im Alterthume, 170, 261, 702 (Leipzig, Karl W. Hiersemann, 1908). See also Charlesworth, 52, 200.

[23]Charlesworth, 236; Frank, 227–231. [24]Frank, 228–230.

[25]Frank, 229.

Tile-burning in those times was regarded as a legitimate branch of agriculture[26]. One family, that of Domitius Afer, the Gallic orator, accumulated an immense fortune from this industry. Bricks with the stamp or trademark of this family have been found in many public buildings at Rome, and, perhaps, elsewhere. In the reign of Marcus Aurelius the brick yards of this family passed by inheritance through marriage into the hands of the imperial family, with the result that the brick trade of Rome became almost a monopoly of the crown. It is interesting to note the attitude of the aristocracy to this industry. Brick-making is regarded as the sole industry at Rome in which the patricians did not hesitate to engage without penalty of losing caste[26]. Among the names given in brick stamps have been found such names as Asinius Pollio (perhaps he had a kiln at his Alban villa), and Tuli (perhaps for Marcus Tullius Cicero; the specimens were discovered near his famous Tusculan villa).

Metal-ware was another industry which was conducted on a large scale. The Romans made no use of cast iron; they were unacquainted with the method and the process of its manufacture. They were content with the laboriously wrought product of the anvil[27]. They were acquainted with the uses of copper, bronze, and lead, and manufactured the products of these metals. We even know the prices at which such products sold. Iron, for instance, sold at six dollars per hundred weight. In the Delian price list[28] copper is quoted at prices not very much higher than modern prices. The Romans got the iron ore and their copper from Etruria and the island of Elba. To be sure, there were mines, too, in Spain and elsewhere. The Etruscan cities controlled the early metal market[29], but, later, Puteoli captured both the industry and the trade. Diodorus (5.13) informs us that in the region of Puteoli, near Naples and Capua, weapons of war, arms, and farming implements were manufactured in large quantities and were sold to traders who transported them to various parts of the world. Yet we must remember that these were all hand-made products turned upon the anvil. Large numbers of freedmen and slaves found employment in the metal-shops of Puteoli, and that locality became a center of export trade in metal products. Notwithstanding the extent of the iron industry, students of this subject do not feel warranted in affirming that it was conducted on a factory system.

On the other hand, there appears ample justification for the inference that the manufacture of copper ware and bronze ware developed into a real factory system, at least at Capua[30]. It is conceded that bronze utensils of various designs and of uniform workmanship, such as bowls, platters, pots, pans, etc., bearing the manufacturers' trade-mark or name, were produced at Capua and were exported to Germany, Gaul, Sweden, Finland, and Scotland, where they have been discovered and brought to light. We know that the Etruscans in very early times established a bronze industry about Capua. Here Rome had her first money coined. Cato (De Agricultura 35) advises his contemporaries that they can buy here the best bronze buckets and all kinds of copper ware. Here also, so Pliny the Elder assures his readers (34.95), the best copper utensils were to be found. It has been affirmed that the bronze factories of this district were ample enough to employ thousands of workmen. It is believed also that the bronze industry of Capua was so highly developed as even to produce works of art, such as the fine metal furniture and other objects of art found at Pompeii, and that in those foundries statues were cast for the Greek artists of Naples and other places.

The last industry which Professor Frank lists in his catalogue (220) is that of the goldsmiths and jewelers. There is not sufficient evidence, however, that this industry attained the rank of wholesale production. This business was carried on in small shops. Yet sometimes a capitalist would, as an investment, equip an artisan's shop for a skilled slave or freedman. Associated with this business was that of the *gemmarii*, who cut intaglios and cameos. Some of the signet rings of the wealthy noblemen are still highly treasured as works of art. The section of the city of Rome allocated to the jewelers and the lapidaries was near the Sacred Way; here there was a row of shops of the craftsmen. The work was usually done to order; from the nature of the craft production did not reach a wholesale scale.

Discoveries in Pompeii help us to check our inferences and conclusions. A survey of the industrial life of that ill-fated city reveals some interesting facts. The inscriptions and the trade-marks on objects[31] found there in the shops tell a rather trustworthy story of Roman industry and commerce. Here are specimens of the Arretine pottery, terra cotta articles; but the large and bulky pieces, such as wine-jars and oil-jars, tiles, etc., are evidently products of near-by factories. The beautiful silver plate found on the tables of the rich Pompeians came from Campanian shops. The carved marbles, the finely wrought objects in metal (tables, stands, candelabra) seem to indicate factory products. So also, perhaps, does the intarsia furniture, which probably was much in vogue among

[26]Since the materials used in tile-burning and in brick-making came from the soil, these occupations were regarded as a legitimate branch of agriculture, and so as proper even for the aristocracy, as proper as grain-production or stock-raising. See Frank, 231.

[27]On the iron industry, especially in and about Puteoli, see Charlesworth, 6, and Dubois (page 125 of the work named in note 5, above). Under the Empire the mines of Spain, so rich in minerals of all kinds, were brought by Tiberius under imperial control. See Charlesworth, 158, Frank, 232.

[28]Delos was the center of Roman foreign trade in the period of the late Republic and the early Empire, especially of trade with the East. The island-city was destroyed by Mithradates in 88 B. C., and was never rebuilt, so that its inscriptions lay undisturbed till modern times. These inscriptions furnish the so-called Delian price lists. See Frank, 232, Roman Imperialism, 284, Charlesworth, 76. On the prices current in general see Louis C. West, Cost of Living in Roman Egypt, Classical Philology 11 (1916), 293–314.

[29]Frank, 232. For an interesting catalogue (with Plates) of metal objects found about Boscoreale, objects which are now in the Field Museum of Natural History, Chicago, see Herbert F. De Cou, Antiquities from Boscoreale, Field Museum Publication 152, pages 182, 211 (Chicago, 1912).

[30]See Charlesworth, 7; Frank, 254–255, 411.

[31]See Mau-Kelsey, Pompeii, etc., 384, 499–508; Wilhelm Engelmann, Neue Führer durch Pompeii, 88–89 (Leipzig, W. Engelmann, 1925. See THE CLASSICAL WEEKLY 20.212–213).

the wealthy Roman noblemen. Milling[32] and bread-making must have been conducted on a wholesale scale at Pompeii. There is hardly any doubt that the famous fish sauces[33] of Pompeii, called *garum* and *liquamen*, were manufactured by factory methods for domestic and foreign trade. Pliny (N. H. 31.94) informs us that there was also a corporation in Spain that manufactured these famous fish sauces.

Now, if the industrial life of a small city such as Pompeii was so complex, how much more complex must have been the industrial life of a great metropolis like Rome? No doubt, the wealthy class of the large Italian cities demanded luxuries and delicacies that contributed to an extensive commerce. Certain cities were noted for the production of articles on a factory scale. Here belong the bronze industry of Capua, the iron industry of Puteoli, the brick monopoly of Rome, the terra cotta ware of Arretium and elsewhere, etc. Furthermore, the factory system was developed in the making of glass ware, furniture, table delicacies, and other commodities.

Even the government, under the early Empire, engaged in industry and commerce. When Augustus, for example, gained control of Egypt and governed it as an imperial province[34], he developed its industries and commerce on a large scale, and himself operated them as a captain of industry. The government controlled as a state monopoly the Egyptian business in flax, wool, hides, oil, salt, brick, timber, dye, jewelry, and perfume. Moreover, the government also directed the transportation and distribution of the surplus products. Thus the province of Egypt yielded the imperial exchequer a profit[35] of ten million dollars (or more) a year. From the very nature of this vast trade there developed a considerable commerce between Rome and Egypt. But the commerce was not restricted to Rome. Strabo (2.5.12) informs his readers that a ship sailed every third day from the Red Sea for the East[36].

There is little doubt that there was considerable commerce between the East and Rome. Probably most of the ships engaged in this commerce were 'tramps'. Many merchants who owned and operated their vessels 'tramped' from port to port wherever the largest profits seemed available for their cargoes. These merchants attended personally to the buying and the selling of their cargoes. They also 'rented space'[37], as they expressed it, to other merchants, who filled orders for foreign consignees. Sometimes the owner of a 'tramp' ship found his business increasing so rapidly and so profitable withal that he gradually acquired a small fleet, and then he would transform his 'tramp-business' into regular packet shipping, and establish regular sailings between definite ports. The Roman jurists Ulpian and Paulus here and there in their *Digests* (4.9.7.2; 14.1.1.3; 14.2.2.1, etc.) imply that the Romans employed ship captains to transport goods for importers and exporters very much as modern steamship companies do, except that the vessels did not generally maintain established routes. However, some few lines of ships, e. g. that between Brundisium and Dyrrhachium, even main-maintained a regular passenger service. The Roman government, in order to keep Rome abundantly supplied with grain, organized regular ship lines to Sicily[38], Egypt, and other foreign countries. There appear to have been regular ship lines also to such important ports as Marseilles, Alexandria, Athens, Tyre, etc.

Turning now to the commodities figuring in the foreign commerce, we may remark that from the Po Valley went such products as wines, pitch, lumber, pork, wool, and cloth. Much of this commerce, however, did not find its way beyond Rome; the products were consumed there. From the district of Campania were exported quantities of pottery, bronze-ware, iron products, and bricks. It is not surprising that Rome was unable to maintain an equilibrium of trade. The balance was usually against the metropolis, if the credit accounts from investments in foreign provinces and the constant inflow of tribute are not taken into consideration. The government had often to take measures to prevent the outflow of gold and silver specie, to offset the balance of trade, for Rome's imports far exceeded her exports. Besides the vast grain imports already indicated, Rome imported from the West large quantities of raw products (for the most part from Marseilles), such as metals, hides, wool, cheese, amber, salt meat, and tin (from the British Isles)[39]. From the Near East[40] came the principal imports—grain, salt, fish, timber, dried fruits, wines, precious stones, tapestries, draperies, linens; from the Far East came silks, myrrh, incense, cotton, pearls, ivory, and spices[41]. The Roman imports from Egypt included glass, paper, papyrus, fine linen cloths, etc. Both from Egypt and from the East Rome of course imported innumerable wild animals for private gardens and the public games in which thousands were slain (more than five thousand were slain at the dedication of the Flavian Amphitheater). No mention has been made of immigrants. But it is well known that Rome imported immense

[32]Mau-Kelsey, 388–392. [33]Mau-Kelsey, 15, 506.

[34]On Egypt as an exclusively imperial province and possession see Theodor Mommsen, The Provinces of the Roman Empire, Translated by William P. Dickson, 2.253, 259, 277, 325 (New York, Charles Scribner's Sons, 1906); Charlesworth, 16–34.

[35]See Mommsen, The Provinces, etc., 260; Frank, 387. For a catalogue of imports and exports from Egypt see Charlesworth, 248.

[36]Strabo indicates that under the Ptolemies not twenty ships ventured forth per year from the Arabian Gulf, whereas under Augustus 120 merchantmen annually sailed to India from the port of Myos Hermos alone. See Mommsen, The Provinces, etc., 325. On the safe and efficient service between Rome and Egypt of the transport ships which were entirely under imperial administration see Charlesworth, 23.

[37]Frank, 301.

[38]Charlesworth, 33, 118.

[39]On the imports of Rome from Gaul and the British Isles, which constituted a large trade, see Charlesworth, 180. Much of this traffic was from the port of Marseilles. The Emperor Claudius built many roads to Gaul to promote its commerce and trade. The entire province of Gaul was prosperous and very progressive, and had, by the second century of the Empire, attained a high degree of civilization.

[40]For a detailed discussion of the trade of Rome with the Near East see Charlesworth, Chapters on Syria and Asia Minor (36–56, 76–96). Probably the greater part of the imports of Rome, apart from grain, originated in the Near East. Pliny (N. H. 12. 84) informs us that the Romans annually spent enormous sums for articles of luxury from India and China.

[41]As long ago as 1907, I called attention to the evidence supplied by the names of slaves to the extent of Greek and Roman travel and commerce. See, for this and other matters, my paper, Travel in Ancient Times as Seen in Plautus and Terence, Classical Philology 2.1–24, 281–304, especially 12, note 4. C. K.>.

numbers of slaves, especially from the East, so that Juvenal (3.60) speaks of the metropolis in his time as an Oriental city, and it has been estimated that almost 90 per cent of the people were of foreign extraction.

A word may now be said about freight rates and passenger rates. Professor Frank[42] tells us that these rates appear to have been quite moderate, especially in view of the high insurance charges and the slow time of the ships. But the explanation lies mainly in the fact that labor was very cheap and port dues very low, and the accommodations not to be compared with the conveniences and the comforts of modern travel. Passengers seem to have had to provide their own sustenance aboard ship. Furthermore, ships were sometimes insured gratis by the government. In the third century A. D., for example, the freight rate on a bushel of wheat from Alexandria to Rome was only two cents, which seems quite reasonable.

There is an interesting picture of a typical merchant prince of the *nouveau riche* class, in Petronius, Cena Trimalchionis 75. I venture to quote this in conclusion of the present inadequate study. The scene of this sketch is, perhaps, the chief seaport of Rome, Puteoli[43]. I translate the passage as follows.

'. . . I was only as big as that lamp when I came from Asia; in fact I used to measure myself by it every day . . . . By heaven's help I became master in the house, and then I caught the fancy of my fool of a lord. Hence at his death he made me co-legatee with the Emperor, and I got a senator's fortune. But no one ever gets enough. I wanted to go into business. To cut the story short, I built five ships, loaded them with wine—it was worth its weight in gold then—and sent them to Rome. Every ship was wrecked just as though I had ordered it; that's a fact. In one day Neptune swallowed up thirty million sesterces. Do you think I lost courage? No, by heaven, the loss only whetted my appetite as if nothing had happened. I built more ships, larger, better, and luckier ships, so that no one should say I wasn't a man of courage. You know a great ship has great strength in itself: I loaded them with wine again, pork, beans, perfumes, and slaves. Then my wife did a respectable thing; she sold all her jewelry and dresses and put in my hand a hundred pieces of gold. This was like heaven to my fortune. What heaven wishes comes quickly; by one trip I cleared a round ten million. At once I bought back all the estates that had belonged to my master. I built a house and traded in cattle; everything I touched grew like a honey-comb. When I found that I had more than all the citizens of the town put together, I quit the counter and set up my freedmen in business for me. Then I built this house. As you know, it was once a hovel, now it's fit for a god. It has four dining rooms up stairs, my own bed-room, this viper's sitting-room, a very fine porter's lodge, and spare rooms for guests. Take my word for it, if you have only a cent, you are valued at a cent, but if you've got something, you'll be thought worth something. So your humble servant who was a pauper has come to be a prince'[44].

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[42]Frank, 315. [43]See note 15, above.

[44]I add a reference to two discussions of Roman commerce and business with which, perhaps, not every reader is familiar. One is, I fear, out of print. It was by Charles G. Herbermann, long Professor of Latin in the College of the City of New York. It was entitled Business Life in Ancient Rome (New York, Harper and Brothers, 1880). The seventy-four small pages are packed with information. See also H. De D. Gibbins, The History of Commerce in Europe [London and New York, The Macmillan Company, 1891]. In Chapter III, entitled Greece and Rome, pages 17–25, there is a brief discussion of ancient commerce.

Classical Origins of Scientific Terms. By Gonzalez Lodge. Latin Notes Supplement, Number 26. November, 1927. Published by the Service Bureau for Classical Teachers Maintained at Teachers College, New York City, by the American Classical League. Pp. 18. 20 cents.

In his pamphlet, Classical Origins of Scientific Terms, Professor Lodge has taken the Vocabulary of Scientific Terms for High School Students, published by Professor S. R. Powers, of Teachers College, in the Teachers College Record for November, 1926, along with the words omitted there because they are included in Professor E. L. Thorndike's Teacher's Word Book, and has traced in a summary way the etymologies of those which go back to Latin and to Greek, that teachers may "have a more evident proof of the dependence of science upon Greek and Latin for its vocabulary than is usually available. . ." This is strikingly brought home by the fact that, of the first 100 words, 86 come from Greek and Latin, of which only two have native English suffixes. Of the remaining 14, 7 have suffixes or other elements coming from the Classics. Of these 14, by the way, 10 go back essentially to Arabic. Of the second 100, certainly 93 or 94 come from the classical languages; of the remaining 7 (6) 2 come in part from the same sources. In all, about 2,000 words are interpreted.

For convenience, Professor Lodge lists some of the common suffixes at the outset, with their uses; I note the omission of *-ist*, occurring in *alchemist*, *bacteriologist*, *biologist*, etc. It would have been convenient to have a list of the common prefixes also, such as *a* or *an*

I add here remarks on another matter. In the first edition of his book, An Economic History of Rome, 9, 51, 54–56, Professor Frank had maintained that there had been a serious exhaustion of the soil of Italy, with marked effects on the development of agriculture, e. g. in the substitution of olive-raising for the cultivation of cereals, the devotion of capital to stock-raising and sheep-raising, and the development of the large estate, supplanting numerous small holdings. He presents these views less strongly in his second edition. Before I knew he had his Economic History in hand, I had studied the substance of the first chapter of that book, Agriculture in Early Latium, as published in the form of an independent article, and had questioned, seriously, his argument about the exhaustion of the soil (see THE CLASSICAL WEEKLY 13.113–115).

In 1921, Professor Vladimir G. Simkhovitch, Professor of Economic History in Columbia University, published a book entitled Toward the Understanding of Jesus (New York, The Macmillan Company. Pp. vii + 165). After the essay which gives to the book its title comes a paper called Rome's Fall Reconsidered (84 139). The burden of this paper may be seen clearly from its concluding paragraph: "In this study, however, which is not concerned with the details of Rome's life, one single, major and strikingly variable productivity factor suffices to solve the problem. That factor—the exhaustion of Roman soil and the devastation of Roman provinces—sheds enough light for us to behold the dread outlines of its doom".

In 1925, Messrs. Longmans, Green and Co. published a volume entitled The Roman Colonate, The Theories of its Origin, by Roth Clausing (333 pages). I happen to know that this was a Columbia University Dissertation, for the Doctorate (not, however, under the direction of the Department of Greek and Latin). In an Introduction (5–7), Professor Simkhovitch states, *inter alia*, that Dr. Clausing's work on this book was undertaken at his suggestion. One is, therefore, not surprised to find that Dr. Clausing makes much of the exhaustion of the soil of Italy (6–7, 130–131, 243–253, 271–272, 280–281). A distinguished professor of ancient history whose name I have not, at the moment I am writing this note, permission to give, has told me in very vigorous terms that he has no patience with this doctrine of soil exhaustion in Italy.

Much material of prime importance to the student of the Classics appears in quarters so remote from normal classical wanderings and experiences that the material is likely to be missed by many classical students. In the University of Toronto Studies in History and Economics, as long ago as 1907, there appeared a monograph of 200 pages, by Edmund Henry Oliver, entitled Roman Economic Conditions to the Close of the Republic. The edition of this work was limited to 650 copies. C. K.>.

privative, *ab*, *ad*, *anti*, etc., with their normal meanings in composition. This would be especially valuable, since it would give a better account that can be given in the very brief word-by-word treatment. The semantics of prefixes is often not satisfactory. This is true, for example, in connection with *de*. The prefix *de* has the effect of reversing the action, as English *un-* has in *undo;* but we find *de* glossed by Professor Lodge as "not" in *decompose*, as "negative prefix" in *dehydrate*, as "down or negative" in *deplete*, though it has the same function in all these words. Similarly, "under" is hardly the proper gloss for *sub* in *subdivide*; and *trans* is not "across", but 'through', in *translucent*, *transparency*, *transpiration*.

Semantic interpretations should by all means be clear. Clearness would be one of the prime values of such a pamphlet. We have, indeed, many excellent statements by Professor Lodge, as those on *focal*, *instant*, *insulate*, *plunge*. Yet there are many which must be baffling to the reader. *Detect* is glossed by "de, *down* + tego, *cover* (i. e., *take cover off*)"; *de* should be glossed by *un-*, since *de-tect* is 'un-cover'. *Incipient* is described as "participle from in, *in*, *on* + capio, *take*"; this is correct, in a way, but absurd, for *incipio* means 'begin'. *Infect* is glossed by "inficio, infect, from in, *in*, *on* + facio, *make*"; here the Latin word means rather 'put into' or 'dip into', for in this word *facio* has the original meaning ('put') of the Greek cognate. *Ductile* is glossed by "ductilis, adjective from duco, *lead*"; here *duco* means 'pull'. *Poster* is described as "noun from post, from pono, *place*, *put*"; the reader has no typographic indication that *post* is here the English word, not the Latin preposition. *Organ* is glossed by "*ὄργανον, instrument*"; a better gloss would be '(physical) organ'. *Antitoxin* is properly explained, but under *toxic* we find only "*τοξικόν*, adjective from *τόξον, bow*"; this is correct enough, but baffling unless it suggests the use of poisoned arrows. Like criticism might be made in connection with many other words.

False ideas are promoted by implication in many of the definitions. "accelerate ad, *to* + celero, from celer, *quick*" suggests that the combination *accelero* was not used in Latin; but it was. A precisely parallel phrasing is used for *submarine*, and there was no Latin word *submarinus*. The same defect lies in the explanations of *accumulate*, *adductor*, *adventitious*, *afferent*, *aggregate*, *agriculture*, etc. The proper formula would have been that used for *inficio*, quoted above.

Wrong ideas of forms and of sounds are inculcated.

"bivalent bis, *twice* + valeo, *have value*": a better mode of explanation would be 'bis, *twice* + present participle of *valeo*'.

"chemical adjective from chemistry": what becomes of the *-stry?*

"deciduous deciduus, adjective from de, *down* + cado, *fall*": there is need of indicating that *-ous* is a separate element, not represented in *-us* of *deciduus*.

Words in *-logy* are correctly given as having *-λογία*; likewise, *electrophorous* should have *-φορος* + *-ous*, and *microscope* should have *-σκόπιον*, but they receive merely *φέρω* and *σκοπέω*.

"different participle from di, *apart* + fero, *bear, carry*": whence then the other *f?*

"photograph *φῶς, light* + *γράφω, write*": whence, then, the *t?*

The formula for *acetic* and that for *acetone* show inconsistency in the attitude toward the suffixes; compare also *acetate* and *sulphate*.

"adjunct ad, *to* + iungo, *join*": why disregard *adiunctus?*

The *-fy* in *specify* and other words is always given as from *facio*, instead of from *-ficare*, found in Latin compounds; this leads to curious variations, as in the glosses given on *specific* and *specify*.

The foregoing examples are all types, and not merely isolated instances.

Professor Lodge states that it was his plan to analyze the words coming from Latin and Greek, and some of the others, but not all. One infers that words without explanation are non-classical in origin. But on this basis he has failed to recognize the classical origin of the following words, or of their italicized parts: acre*age*, *air*ship, *anneal* (a conflux of two words, one classical), *bittern*, *carb*orundum, *cess*pool, *copyright*, *dis*ease, foot-*pound*, horse-*chest*nut, horse*power*, nickel-*plate*, *palisade*, *salpeter* (!), *scarcity*, stand*pipe*. Late Latin words are the basis of *barberry*, *barrel*, eye-*piece*, *ton*. The following might have been carried back to a Greek origin, behind the Latin: *aerate*, *amalgam*, *citron*, mala*ria*, *pepper*mint.

I noted 25 errors in the Greek words, mainly of accents, breathings, and subscripts, but wrong letters in words cited under *rhinoceros*, *saccharin*, and *trichina*. I list now a series of single errors or misleading statements.

Abbreviate: from *ad* + *breve*, certainly (not from *ab*).

Aldehyde: dehyd(*rogenatus*) means 'deprived of its hydrogen' (not "deprived of its water").

Benefit: from *beneficium* (not from *benefacium*), and that, too, not directly from *bene* + *factum*, but from *bene* + *fac* + *-ium*.

Billiard: from late Latin *billa*, 'stick' (not from "billa, *ball*").

Combustible: there was no verb *buro*, 'burn'; *comburo* was made by the influence of *amb-uro*, and *bustum* was a later 'back-formation'.

Compose: not from *com-pono*, but from *pauso* (denominative from *pausa*, borrowed from Greek), which in French and in English largely replaced *pono* in the present tense system. *Composite* and other derivatives of the perfect participle are, however, as Professor Lodge indicates, from *compositus* (compare *pono*).

Connective: the correct Latin form is *conecto* (*connecto* is a late spelling).

Cyanamide is glossed by "cyan(ogen) + -amide", but no explanation of *-amide* is given.

Esophagus: analysis of the Greek word into its two parts would be illuminating, but no such light is given.

Ester: "compound ether" is a definition, not an etymology.

Fahrenheit is wrongly defined as "thermometric unit..."; it denotes a thermometric scale or system.

Frontispiece: the second part is *-spicium* (not "piece").

Gamete is from the Greek word for 'husband' as well as from that for 'wife'; Professor Lodge gives only the latter.

Gelatinous. Clarity is lost by failure to give *gelatine* as the intermediate step.

Genetics is French, from γενέτης, 'begetter', rather than from γένεσις, 'generation'.

Imagine: from *imaginor*, a good, Silver Latin word (not merely through French, from *imago*).

Jellyfish: the gloss, "through French from gelo, *freeze*, from gelu, *cold*", is poorly expressed; *jelly* is from *gelata*.

Lime is glossed by "akin to limus, *mud*"; it is cognate to *limus*, yes, but is itself a good Germanic word. This definition will be wrongly taken by many to indicate a classical origin.

Liter: from *Greek* λίτρα (there is no Latin *litra!*).

Mid-brain, mid-rib: mid is good Germanic (it is not from *medius*, but is cognate to it).

Nicotine is not merely French, but is a French personal name + *-ine*.

Pancreas: 'sweetbread' in this meaning is one word (not two: the two words mean something else).

Phenomenon: φαίνω means 'show' (not "appear"); in the middle voice only it means 'appear'.

Pitchblende: pitch is from Latin *pix* (not from πίσσα).

Plant: planta should be glossed by 'plant', a good classical meaning, rather than by "*sole* (of foot)", another correct meaning, but here irrelevant and misleading.

Pound: pondo should be glossed by the words 'by weight'.

Proglottid: the Greek words should for clearness have *-ττ-* (not *-σσ-*), as under *epiglottis* and *glottis*.

Prolific: the second element is ignored in the analysis, though it is not ignored under *specific*.

Rheostat: the second element is στατός, 'stopped'; ἵστημι means 'set', 'stop', 'place' (not "stand", except in the middle voice, and in the second aorist and the perfect active); the same error in meaning is found under *system*.

Rhubarb: rheum barbarum, the intermediate Latinization of the Greek, should be quoted for intelligibility.

Sorus: read 'heap' (misprinted "*heat*").

Summarize: from *summarium*, a derivative of *summa* (not directly from *summa*); otherwise the *r* is not accounted for.

Torricelli: this is an Italian personal name (to call it merely "Italian" is to class it with *macaroni*).

Trillion: "French trillion from tres, *three*" is inadequate: gloss rather by *tr(es)* + *(m)illion*.

Volt: the name *Volta* should be given, or the *a* in *voltaic* remains unclear.

These are some of the reflections which occur to me as I examine the pamphlet. Such a compendium is useful, but it ought to be absolutely accurate and authoritative. Obviously it was composed in haste, and the user dare not give its data his complete confidence; he must confirm or correct them from other sources. If he can confirm them from other sources, why not use those other sources?

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A Companion to Pompeian Studies. By A. W. Van Buren. Rome: Printed for The American Academy in Rome (1927). Pp. 30. 25 cents.

Dr. Van Buren's pamphlet, A Companion to Pompeian Studies, is a sort of Condensed Baedeker (Pompeii and Vicinity) for the Use of Students. It was written (page 5) "with a practical end in view: to furnish our students with a portable statement of the main documentary evidence for the interpretation of the monuments for their use when at Pompeii, and also with a guide to recent publications for the facilitation of their work in libraries; since scholars in general must have been conscious of a similar need, it may also render service to them".

The pamphlet consists of illustrative passages from the ancient authors and of directions to some of the secondary works on the antiquities of Pompeii. After a selection of the ancient references to Campania (7–11) and to Vesuvius (11–12) there follows as the first chief section a source-book of Pompeii (12–22) under the headings Pompeii in General, The Social War—Sulla's Colony, Pompey's Partisans, Fight with Nucerini, 59 A. D., Seneca at Pompeii, The Earthquake of 63 A. D., The Eruption of 79 A. D. The second section (22–30) is a special guide to recent literature on such topics as Art (ceilings, bronzes, paintings), Inscriptions, Town-plan, Forum, Other Public Monuments, Inhabitants, Trades and Occupations.

One may surmise that the real purpose of the pamphlet is to furnish the footnotes for the lectures of Mr. Van Buren. As such it may well be indispensable to the limited number of students who visit Pompeii under the guidance of the American Academy in Rome. But it will be valuable also to those who have seen or expect to see Pompeii for themselves. All the most important ancient citations are here—it is rather a surprise to realize that, on the whole, there are so few. The inscriptions, though not important, are interesting, and the references to secondary literature are suggestive.

It would be easy for a critic, forgetting the practical aim of the work, to demand too much of it. There is but one passage whose omission I regret, namely Seneca's rhetorically humorous description of the Naples-Pozzuoli tunnel (Epistles 57.1–2; compare Strabo 5.4.7):

Cum a Bais deberem Neapolim repetere, facile credidi tempestatem esse, ne iterum navem experirer, et tantum luti tota via fuit, ut possim videri nihilominus navigasse. Totum athletarum fatum mihi illo die perpetiendum fuit: a ceromate nos haphe excepit in crypta Neapolitana. Nihil illo carcere longius, nihil illis facibus obscurius, quae nobis praestant non ut per tenebras videamus, sed ut ipsas. Ceterum etiam si locus haberet lucem, pulvis auferret, in aperto quoque res gravis et molesta: quid illic, ubi in se volutatur et, cum sine ullo spiramento sit inclusus, in ipsos, a quibus excitatus est, recidit. Duo incommoda inter se contraria simul pertulimus: eadem via, eodem die et luto et pulvere laboravimus.

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HOMER AND THE BIBLE

A novel case decided in Palestine was reported in a dispatch from Jerusalem to The New York Times, November 3, 1926:

"The Bible was produced as evidence in a land dispute on Monday between the Government and Moslem religious organizations. An official of the Land Department quoted Genesis in substantiation of the Government's claim to ownership of property near Rachel's Tomb.

The British Judge agreed to enter as evidence Chapter 35, Verses 16 to 20, defining the location of Bethlehem".

The verses in question read (Revised Version):

"And they journeyed from Beth-el; and there was still some distance to come to Ephrath: and Rachel travailed, and she had hard labor....And Rachel died, and was buried in the way to Ephrath (the same is Beth-lehem). And Jacob set up a pillar upon her grave: the same is the Pillar of Rachel's grave unto this day".

Students of Homer will be reminded of the famous citation of the poet to decide the controversy of Athens and Megara over Salamis[1]. The case turned, it will be remembered, on the evidence of Iliad 2.557–558 (alleged, incidentally, to have been forged for the purpose): 'And Ajax brought twelve ships from Salamis, and stationed them so that they stood with the lines of the Athenians'.

In many respects the treatment of Homer by Latin and Greek authors is like that of the Bible by English writers. Without aiming at completeness I list a few of these similarities; readers of this note may be interested to add others.

The fertility of Biblical allusion and imitation in Milton, Bacon, and Jeremy Taylor (to go no farther) is paralleled by the use of Homer in e. g. Vergil and the Silver Latinists[2]. The archaistic tendency exemplified by Bunyan's use of scriptural language has its ancient counterpart in the similar tendency of the Alexandrians to hark back to Homer[3]. The use of the poet by the Stoic schools as a guide to conduct is well known and parallels the 'Bibliolatry' of the moderns: see, for example, Horace's enthusiastic commendation of Homer as a teacher of morals (Epistulae 1.2.3–4, 17–18):

> qui quid sit pulcrum, quid turpe, quid utile, quid non,
> planius ac melius Chrysippo et Crantore dicit....
> rursus quid virtus et quid sapientia possit
> utile proposuit nobis exemplar Ulixen....

Again, Homer was used, as the Bible has been used, as authority to drive home the truth of important statements or as the source of proverbial wisdom. See the remark of Professor Eliza G. Wilkins on the ascription of the Delphic maxims to Homer[4].

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[1]The story is best told in Strabo 9.10 (Teubner edition, by August Meineke, 2.557–558 [1915]) and Plutarch, Solon 10. See also Aristotle, Rhetoric 1.15 = 1375 b (Teubner edition, by Adolph Roemer, page 78 [1922]), and Quintilian 5.11.40.

[2]See Walter Coventry Summers, The Silver Age of Latin Literature, 38–40 (New York, Frederick A. Stokes Company, 1920).

[3]See Alfred Körte, Die Hellenistische Dichtung, 144–145 (Leipzig, Kröner, 1925).

[4]Μηδὲν Ἄγαν in Greek and Latin Literature, Classical Philology 21 (1926), 141–142.

DICTIONARY OF LATE MEDIEVAL BRITISH LATIN

The Dictionary of Late Medieval British Latin is a comparatively new enterprise. The work on it was started in the year 1924 in England and since that date has made considerable progress. It is to contain Latin words found in British sources of the period extending from 1066 to 1600. In contrast to the new Du Cange it is to embody only (1) medieval Latin words and (2) classical words used in an unclassical sense. With these restrictions it ought to be possible to complete the gathering of words within a reasonable number of years.

The assembling of words for the Dictionary is directed by a committee of English scholars. Late in 1924 a cooperating committee of American scholars was appointed[1] by "the American Council of Learned Societies and was named Committee on a Dictionary of Late Medieval British Latin. Its members are: Professors G. H. Gerould (Princeton), W. E. Lunt (Haverford), N. Neilson (Mount Holyoke), J. S. P. Tatlock (Harvard), J. F. Willard (Colorado), and G. E. Woodbine (Yale). Professor Willard is chairman of the committee.

Under the direction of these committees a large amount of material has been gathered. During the first year the American committee confined its attention to the preparation of Directions to Readers, to the formulation of an announcement, and to the drawing up of lists of readers and of works to be read. Early in the year 1926 the first requests for co-operation were issued and a few volunteer readers enlisted. Since that time sixty-five individuals have offered their services. Of these six have found it necessary to discontinue their work, ten have completed the books assigned to them, and six will soon select books to read. The English committee reported, in March 1927, that fifty-four works had been completed and that the Scottish committee had sixteen readers on its list. When the report was made about fifty thousand slips had been assembled. Since then the number has been greatly increased. At the present writing one hundred and seven works of various kinds have been completed in England, Scotland, and America, and sixty-seven are being read.

The American committee is now faced with the problem of how to enlist more readers for the Dictionary. There are hundreds of books and collections of documents to be read. There are also many competent readers who have not offered their services. In an enterprise of this sort not only the good will but also the active co-operation of many individuals is necessary. This statement is therefore sent out in order that those who are interested in the Dictionary may know that the gathering of words is well under way, and also in order that the assistance may be gained of those who may not have had the need of more readers brought to their attention.

Further information about the Dictionary and the work to be done may be obtained from James F. Willard, 1101 Aurora Avenue, Boulder, Colorado".

CHARLES KNAPP

[1]What follows in quotation-marks appeared in a circular of information issued by Professor Dillard.

LIDDELL AND SCOTT, GREEK-ENGLISH LEXICON NEW EDITION

THE CLASSICAL WEEKLY ought to have called attention long ago to an extraordinary event—the appearance of three parts of a new edition of the famous Liddell and Scott Greek-English Lexicon: Part 1, Ἀ-Ἀποβαίνω (1925), Part 2, Ἀποβάλλω-Διελέγω (1926), Part 3, Διάλειμμα-Ἐξευτελιστής—(1927). The parts contain pages xliv + 1–192, ii + 193–400, ii + 401–592. In the Lexicon proper there are two columns to the page; each column measures 9½ by 3¼ inches. There are 89 lines to the column, in a type which, though small, is clear and easily readable. The content-capacity of the lines is increased by the use of many abbreviations, which are adequately explained at the appropriate place (1.xiii–xli; 2.1; 3.1).

It is expected that the work will be complete din ten parts. Each part costs $3.50.

The title-page runs as follows:

"A Greek-English Lexicon Compiled by Henry George Liddell D.D. Dean of Christ Church 1855–91 and Robert Scott D.D. Master of Balliol College 1854–70, Dean of Rochester 1870–87.

A New Edition Revised and Augmented Throughout by Henry Stuart Jones D. Litt....With the Assistance of Roderick McKenzie, M.A....and With the Co-operation of Many Scholars....

Oxford: at the Clarendon Press..."

In The New International Year Book for 1925, 547, in the course of an article entitled Philology, Classical (New York, Dodd, Mead and Co., 1926), I wrote as follows of the first part of the new edition:

"A very notable event <of 1925> was the publication, by the Oxford University Press, of <the first part of> a new edition of the great Greek-English Lexicon, compiled by Henry George Liddell and Robert Scott (eighth edition, 1897)....The Preface gives an extraordinarily interesting account of the development of this edition, of the methods by which it was prepared, and of the participation by various scholars in its preparation. The Oxford University Press deserves the grateful thanks of all lovers of true learning for its daring courage and its generosity in undertaking, in this practical world, a project so exacting, and so costly, not merely in money, but in human devotion and effort..."

Gratitude for what has been done and admiration of the devotion that made so much possible should possess the soul of every one who essays to write a word about such an achievement as the work before us. To my way of thinking lexicons and indexes that are in any way exhaustive and accurate do more for the classical scholar than any other work that comes within his ken. Few indeed are the persons who are qualified by temperament, by knowledge, by mastery of technique, by scholarly accuracy, and by strength of will to prepare a great lexicon or a great index. Only one who has been privileged, as I have been, to watch, at close range, for nearly thirty years the making of such a Lexicon is at all competent to write sympathetically and justly of the new edition of Liddell and Scott.

What I have written will explain why I do not attempt now, and why I should never attempt to write a detailed criticism of the new edition of Liddell and Scott. Any one can find some flaws in such a work. I shall rather voice again my delight, my gratitude to the Oxford University Press. In so doing I am, surely, speaking for every one who truly loves classical studies, for every one who knows that the sort of exact knowledge that such a Lexicon aims to give is indispensable to a right understanding of the Greek authors, and thereby to an appreciation of the record they have left of what man did, and said, and felt, and thought.

I advise every reader of this notice to examine as soon as he can Professor Jones's Preface (1. iii–xii).

I conclude by giving in large part the circular—brief, modest—which the Oxford University Press issued, in 1925, to give notice of the appearance of Part 1.

"The new edition of Liddell and Scott's *Greek Lexicon* 'is the work of many hands, and represents a great sacrifice of leisure and an earnest devotion to Greek learning on the part of the present generation of scholars'.

The Preface, from which these words are quoted, is largely devoted by Professor Stuart Jones to an account of the labours of his helpers. But the friends of Greek learning will not forget that he has himself shouldered by far the greatest part of this gigantic burden, and that very few living scholars would have been equal to the task. After his appointment as editor in 1911 he devoted the whole of his time for seven years to the work of organization and research. Since his appointment to the Camden Professorship <of Ancient History> his activities have necessarily been divided; but he has been ably seconded by the assistant editor, Mr. Roderick McKenzie, who for five years has given his whole time to the work.

The magnitude and difficulty of the task may be estimated by a comparison of the Part now issued with the corresponding pages of the current edition. But the results of lexicographical verification are largely negative; and the inclusion of fresh material has been limited by the necessity of heroic compression. While, therefore, the advance made by the revision, in respect of accuracy and of completeness, leaps to the eye from every page, the debt which Greek scholarship owes to Professor Stuart Jones and his collaborators will not be fully realized except by those who, in the course of years, make continued use of their labours.

The extracts from the Preface which follow give a striking survey of the investigations by which the revised edition has been built up. Not merely have the recent accessions—new inscriptions and the papyri—been exhaustively dealt with, but whole sections of the technical literature have been rehandled by experts in the light of fresh knowledge, and even of the more familiar authors and books many have been virtually reread....

It is obvious that the return from sales, even if, as is hoped, a large number of copies are sold on publication, will be far from adequate to the outlay, which from first to last will probably approach £20,000. The Delegates venture, therefore, to hope that lovers of Greek studies will give them such support as they are able".

CHARLES KNAPP